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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,961	10/17/2000	ALAIN BETHUNE	107615	1437
25944 7590 02/29/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
MCCLELLAND, KIMBERLY KEIL				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
02/29/2008		PAPER		

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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALAIN BETHUNE

Appeal 2008-1106
Application 09/688,961
Technology Center 1700

Oral Hearing Held: February 12, 2008

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
ROMULO H. DELMENDO, Administrative Patent Judges

ON BEHALF OF THE APPELLANT:

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1 The above-entitled matter came on for hearing on Tuesday,
2 February 12, 2008, commencing at 2:18 p.m., at The U.S. Patent and
3 Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Carol A.
4 Lowe, RPR, CCR No. 0313084, Notary Public.

5 JUDGE GARRIS: Good afternoon, Mr. Jones.

6 MR. JONES: Good afternoon, Your Honors.

7 JUDGE GARRIS: I'm going to introduce you to the gentleman
8 in the back. That is Michael Hayes. Mr. Hayes is our newest patent
9 attorney that works with us here at the Board.

10 MR. JONES: Okay.

11 JUDGE GARRIS: He will be observing the hearing today. Mr.
12 Jones, as you know, you have 20 minutes to present your case. Please begin.

13 MR. JONES: Well, again, good afternoon, Your Honors.
14 Claims 1 and 26 are directed to a hot marking method enabling decoration to
15 be made on an article.

16 Claims 1 and 26 each include a backing layer, a separation
17 layer. And below the separation layer is a UV thermal varnish layer. This
18 UV thermal varnish layer I'll keep referring to throughout this discussion.
19 Below the UV thermal varnish layer is a decoration layer.

20 Now, the UV thermal varnish layer and the decoration layer are
21 transferred to an article; but before that transfer takes place the UV thermal
22 varnish layer is partially cured with heat. Thus, after the transfer the UV
23 thermal varnish layer is fully cured with UV radiation.

24 The UV thermal varnish layer being partially cured with heat
25 makes it very sensitive to the UV radiation that it is exposed to after the
26 transfer occurs.

1 The examiner alleges that it would have been obvious for one
2 of ordinary skill in the art to have combined JP 492 and Reed to achieve a
3 UV thermal varnish layer that is partially cured by an exposure to heat prior
4 to transfer and then later fully cured by UV radiation.

5 We disagree with the examiner's allegation and believe that the
6 combination of JP 492 and Reed do not teach or suggest a material that is
7 both thermally and UV curable.

8 JUDGE GARRIS: Are such materials known in this art?

9 MR. JONES: Given the references that have been applied with
10 JP 492 and Reed, neither teach or suggest the UV thermal varnish layer.
11 Our application also does not indicate whether this UV thermal varnish layer
12 is known. So given the rejection and the references applied, I cannot state
13 whether it's known or not known.

14 JUDGE GARRIS: Well, the reason I ask is because your
15 specification disclosure gives almost no detail as to this particular varnish
16 layer. So that it would seem as though they're speaking to those skilled in
17 the art that they want to use a UV thermal varnish layer without providing
18 any details as to what that might be.

19 It's almost as though they presume -- whoever prepared this
20 specification is presuming those skilled in the art would know what that is;
21 that it's known in the prior art.

22 MR. JONES: That may be true. All I can say is that the
23 specification provides a description of what a UV thermal varnish layer is.
24 And other than that I cannot say -- state one way or the other if it was known
25 or not.

26 JUDGE GARRIS: All right. Let me ask you this.

1 MR. JONES: Okay.

2 JUDGE GARRIS: Now, the Japanese reference, like you, does
3 partially cure prior to transferring the decorative layer and the protective
4 layer and the varnish layer.

5 MR. JONES: Right.

6 JUDGE GARRIS: And I guess it's for pretty much the same
7 reason. And that it's only after the transfer that the full curing of the varnish
8 or protective layer is undertaken using, as you do, UV radiation.

9 So the sole distinction seems to occur at the precuring stage
10 where the prior art, the Japanese reference, uses UV light whereas you, on
11 the other hand, use heat.

12 Now, first of all, do you agree with that? And, second of all,
13 for what reason do you use heat to precure, a UV radiation to fully cure?
14 You could have used UV radiation to partially cure the varnish layer just as
15 the Japanese reference does. And instead you have used heat for that partial
16 curing step. Why is that?

17 MR. JONES: Okay. I'm going to go back to your first
18 question. Hopefully I can hit these. And let me know if I -- if I missed one.

19 First, I believe that there is a significant difference in between
20 the two, the methods of JP 492 and that of claims 1 and 26.

21 We use a UV thermal varnish layer and use heat for precuring.
22 Now, the JP 492 reference used UV radiation for precuring, but the
23 precuring in the JP 492 reference is used to protect the protective layer from
24 melting.

1 There's heat applied in the JP 492 method. And in order for -- it
2 requires that that protective layer be in a solid state for transfer. In order to
3 protect it it must precure it with UV radiation.

4 We -- the claims 1 and 26 allow for precuring with the -- with
5 the thermal, with the heat. And we take advantage -- which is -- and I'm
6 going to -- the claims 1 and 26 do not recite this, but I'm going to speak to
7 your question.

8 The specification goes into detail on -- that heat is also used for
9 the transfer. We actually take advantage of the heat that's applied for the
10 transfer and use it for a precuring, also.

11 So there's -- there's heat going -- actually being used for two
12 reasons; one for precuring, another for the actual transfer. We take
13 advantage of the heat. And JP 492 tries to protect itself from the heat.

14 JUDGE GARRIS: Just to clarify that -- that point a bit now,
15 the precuring with heat that occurs in your process is during the step of
16 building this multilayer structure.

17 As shown in Figure 2 of your drawing, for example, it's in the
18 second step 21 that this precuring occurs. And so it's not -- the precuring
19 does not take place simultaneously with the transfer of this multilayer
20 structure onto a substrate.

21 MR. JONES: Okay.

22 JUDGE GARRIS: And, in fact, the claims don't even require
23 that this transfer occur immediately after --

24 MR. JONES: Right.

25 JUDGE GARRIS: -- the heating step that causes the precure.
26 So you could precure with heat. The structure could then cool down to

1 ambient temperature prior to it being transferred and ultimately fully cured.
2 Isn't that true?

3 MR. JONES: That's what the -- that's what the claims recite.
4 Correct. It doesn't say that there's an immediate application of the UV
5 radiation after the first step of partial curing.

6 Now, I believe -- I would like to bring back to the point of, you
7 know, the difference between JP 492 and the method disclosed in claims 1
8 and 26.

9 First, the UV radiation -- JP 492 does not disclose a UV thermal
10 varnish layer. Now, no amount of heat applied to the protective layer of the
11 -- of JP 492 would partially cure it. It's cured by UV radiation.

12 And, again, I mention that -- the fact that it's UV -- it's partially
13 cured with UV radiation or protected from melting. It needs to be in a solid
14 state.

15 We take advantage of heat applied, as I mentioned before. And
16 -- in that the UV -- partially curing with UV radiation or partially -- excuse
17 me. Partially curing with heat allows the UV thermal varnish layer to be
18 very sensitive to the curing of -- with the UV radiation that's applied after
19 the transfer.

20 JUDGE GARRIS: Let me just clarify that point --

21 MR. JONES: Okay.

22 JUDGE GARRIS: -- you've just made. While it's true your
23 disclosure does teach that precuring with heat causes the varnish layer to be,
24 I guess, more sensitive to exposure to UV radiation, that is only by virtue of
25 the fact that it's in a heated condition; isn't that true?

1 MR. JONES: The sensitivity of the -- yes. The sensitivity of
2 the UV radiation is based on it being at an elevated temperature.

3 JUDGE GARRIS: Well, then we get back to my earlier point --

4 MR. JONES: Okay.

5 JUDGE GARRIS: -- that, of course, your claims don't require
6 that. They would encompass the method wherein the precuring occurs by
7 virtue of heat. The structure is then cooled down. And it's only after that
8 point that there is a transfer and a full curing of the varnish layer.

9 MR. JONES: Okay.

10 JUDGE GARRIS: So really under that circumstance which
11 your claims encompass there would be no particular advantage as taught by
12 your specification for precuring with heat as opposed to precuring with UV
13 radiation unless you can think of one. Can you tell me any?

14 MR. JONES: Well, you're right in that -- the fact that the
15 specification indicates that the advantage is based on that there's an elevated
16 temperature and then would require -- which makes the UV thermal varnish
17 layer sensitive.

18 Now, with the advantage that you're speaking of -- is there an
19 advantage to -- as you stated, that the UV thermal varnish layer is partially
20 cured with heat, say it cools down and then is transferred and then exposed
21 to UV radiation. Is there an advantage to that?

22 I would say compared to JP 492 there is an advantage. And I
23 think the advantage is -- relies on that JP 492's partial curing is to protect
24 itself. That -- that requires someone to perform the method of JP 492 to
25 make sure that the method is done properly.

1 And if it's not done properly, meaning that the J -- that the
2 partial curing is not performed in such a way to protect it from the melting,
3 melting will happen. And if melting happens, the method is lost. So there's
4 a disadvantage.

5 JUDGE GARRIS: But you could -- you could make that same
6 criticism of your own method, couldn't you?

7 MR. JONES: Okay. Well, we actually -- we -- you know, I'm
8 not -- the actual claims in the specification, I -- it's we like the heat. JP 492
9 does not like the heat. It protects itself from the heat.

10 We do not have to protect ourself. We actually encourage the
11 heat and use that -- and use that to not only partially cure but make it
12 sensitive to the UV radiation subsequently applied.

13 JUDGE GARRIS: Well, I think that's the --

14 MR. JONES: Excuse me?

15 JUDGE GARRIS: I think that is -- the point that you're trying
16 to make there seems almost -- seems quite weak to me.

17 As I read your specification, page 5, for example, the second
18 paragraph talks about heating the varnish layer to a temperature sufficient to
19 initiate precuring and thereby ensuring that it is dimensionally stable on the
20 backing layer 11.

21 So that it seems as though your clients, like the inventors in the
22 Japanese reference, want a dimensionally stable varnish layer and achieve it
23 in the same way, by a precuring step. It's just that you use heat whereas the
24 Japanese reference uses the UV radiation.

25 Okay. Why don't you go on then and make whatever other
26 arguments you may care to.

1 MR. JONES: Okay. And before I go on I'd like to also point
2 out that the JP -- the reference of JP 492 does not teach or suggest using heat
3 for curing at all. That's what the Reed references rely on. And I'll get to that
4 in a minute.

5 So based on the hypothetical that we've been going through JP
6 492 teaches UV radiation and not heat. So I -- throughout our discussion I
7 may repeat myself, but I believe it's going to be points that I'd like to reapply
8 and make sure that we're clear on.

9 Again, we disagree with the examiner's allegation that JP 492
10 and Reed teach or suggest claims 1 and 26 in that a material is both
11 thermally and UV curable, requires both UV and thermal, that it's partially
12 curing any such material by heat before transfer and then finally curing by
13 UV radiation after transfer.

14 And, finally, that the teachings of Reed teach away from the
15 teachings of JP 492 where at minimum would have discouraged one of
16 ordinary skill in the art to have looked at the teachings of Reed in
17 combination with JP 492.

18 Now, as we discussed, JP 492 teaches a protective layer that is
19 cured by UV radiation. That is, the protective layer is UV curable.
20 Nowhere is the protective layer taught by JP 492 indicated to thermally cure.
21 And nowhere is the protective layer of JP 492 indicated to be a UV thermal
22 varnish.

23 The protective layer of JP 492 is cured by UV radiation and not
24 heat. Thus, no amount of heat applied to the protective layer of JP 492 will
25 cause any amount of curing.

1 Now, Reed discloses that the use of material -- uses of material
2 that are heat or UV curable, not "and." It's "or" UV curable.

3 The examiner alleges that because Reed discloses the use of
4 material that are heat or UV curable that it would have been obvious to mix
5 and match these methods of curing to achieve the claimed subject matter.

6 And we disagree. Reed does not teach or suggest the use of
7 material in its transfer layer that is curable by both heat and UV radiation
8 and can be used in a manner in which heat is used to partially cure a material
9 and in which UV radiation may then subsequently be applied to finally cure
10 the material.

11 In fact, Reed doesn't even teach partial curing at all which
12 brings me to my final point. Reed teaches that the transfer layer in Reed is
13 heat meltable, because their -- Reed requires its transfer layer to be in a
14 liquid state.

15 Reed in this regard clearly teaches against the use of partial
16 curing -- partial heat curing, excuse me, in a UV curable material as such
17 heat would destroy the ability of the material to transfer in a liquid state.

18 And, on the other hand, JP 492 aims to avoid having to have a
19 layer of resin or a protective layer that melts under heat prior to transfer.

20 And, again, its sole purpose -- one of its main purposes of
21 precuring with the UV radiation -- I'm talking about the JP 492 reference --
22 is to protect itself from melting.

23 Thus, one of ordinary skill in the art following the teachings of
24 JP 492 would not have used the material of Reed, because Reed requires its
25 transfer layer to be in a liquid state which is the exact opposite of what is
26 required in JP 492. And that's what would destroy the method of JP 492.

1 So, once again, I'd like to point out that claims 1 and 26 require
2 a UV thermal varnish layer that is precured prior to transfer. That precuring
3 is done with heat.

4 And, also, claims 1 and 26 have a UV thermal varnish layer that
5 is finally cured after transfer with UV radiation which is -- neither of which
6 is taught or suggested by the combination of JP 492 and Reed. Do you have
7 any final questions?

8 JUDGE GARRIS: Judge Warren.

9 JUDGE WARREN: No.

10 JUDGE GARRIS: Judge Delmendo.

11 JUDGE DELMENDO: No.

12 JUDGE GARRIS: No final questions.

13 MR. JONES: Okay.

14 JUDGE GARRIS: Thank you very much, Mr. Jones.

15 MR. JONES: Thank you for your time.

16 JUDGE GARRIS: We appreciate you coming in and helping
17 us to understand this case.

18 (Whereupon, the proceedings at 2:35 p.m. were concluded.)
19